

Amended Claims

1. - 32. (cancelled)

33. (currently amended) A method of creating a library of DNA ~~nueleic acid~~ sequences comprising:

a) incubating a first double-stranded DNA ~~nueleic acid~~ with an enzyme with exonuclease activity to form a plurality of single stranded DNA regions having random sizes where the first double DNA has a region of partial homology or non-homology with a second double stranded DNA;

b) treating said plurality of single stranded DNA regions with a recombination factor to form a plurality of pretreated single stranded DNA regions, at least one of which has a region of partial homology or non-homology with a second double stranded DNA;

c) adding [[a]] the second double-stranded DNA ~~nueleic acid~~ to the plurality of pretreated single stranded DNA regions in the presence of the recombination factor to form a plurality of three stranded crossover junctions;

d) incubating said plurality of three stranded crossover junctions with a helicase to form a plurality of Holliday junctions; and

e) resolving said plurality of Holliday junctions by incubation with an endonuclease to form a library of DNA sequences.

34. (original) The method of claim 33 wherein said recombination factor is bacteriophage T4 UvsX.

35. (original) The method of claim 33 wherein said helicase is bacteriophage T4 gene products 41 and 59

36. (original) The method of claim 33 wherein said helicase is bacteriophage T4 UvsW.

37. (original) The method of claim 33 wherein said endonuclease is bacteriophage T4 gene product 49.